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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/886,121  | 06/22/2001  | Shunichi Ishikawa    | Q65131              | 4997             |
| 7590  | 12/04/2003  |                      | EXAMINER            |                  |
| SUGHRUE, MION, ZINN, MACPEAK & SEAS<br>2100 Pennsylvania Avenue, N.W.<br>Washington, DC 20037 |             |                      | MCPHERSON, JOHN A   |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1756                |                  |
| DATE MAILED: 12/04/2003   |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                  |
|------------------------------|-------------------------------|------------------|
| <b>Office Action Summary</b> | Application N .               | Applicant(s)     |
|                              | 09/886,121                    | ISHIKAWA ET AL.  |
|                              | Examiner<br>John A. McPherson | Art Unit<br>1756 |

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 8/6/03 and 8/27/04.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 2 is/are rejected.
- 7) Claim(s) 3-6 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This Office Action is responsive to the amendments filed 8/6/03 and 8/27/03.
2. The amendment filed 8/27/03 successfully overcome the rejections set forth in paragraphs 1-2 of the Office Action dated 4/3/03. Accordingly, these rejections are withdrawn.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 4-013128 (JP '128) in view of U.S. Patent No 5,702,850 to Nishioka et al. (Nishioka). JP '128 discloses a chromic film comprising a photochromic layer and a thermochromic layer on one side of a support, wherein the thermochromic layer comprises a reversible thermochromic compound. See the abstract. However, JP '128 does not disclose a reversible thermochromic layer which is in a colored state at 25 C and has a color density which is reduced to 50% at 50-120 C.

Nishioka discloses a thermosensitive recording material comprising a thermosensitive reversible color developing and disappearing material, wherein the

material is made to be colored upon heating to a color developing temperature, is capable of maintaining this color at room temperature, and then the color disappears when heated to 50-120 C. See the abstract and column 14, lines 43-46. The thermosensitive reversible color developing and disappearing agent comprises a dye precursor, a specified color-developing and disappearing agent and a binder (see column 14, lines 13-24), and may further comprise a phenolic color developing agent (see column 15, lines 43-52) and a sensitizing agent including an ether (e.g. benzylnaphthylether, see column 16, lines 26-28) or esters (e.g. oxalic acid diesters, see column 16, lines 37-38).

It would have been obvious to one skilled in the requisite art to use the thermosensitive reversible color developing material of Nishioka as the reversible thermochromic material in the chromic film of JP '128 because it is taught that the thermosensitive reversible color developing material of Nishioka exhibits an extremely high contrast between the colored and disappeared color states, as compared to other dye-type thermochromic materials.

***Allowable Subject Matter***

4. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (703) 308-2302. The examiner can normally be reached on Monday through Friday, 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (703) 308-2464. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



John A. McPherson  
Primary Examiner  
Art Unit 1756

JAM  
12/1/03